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ABSTRACT

This module on health assessment is one of a set of six developed to prepare human services workers for the changing mental health service delivery system. A total of seven objectives are included to help students utilize knowledge of physical factors which may influence health and behavior in order to recognize signs and symptoms which indicate the need for nursing or medical consultation. Following notes on the target population (community college student), module length (51 class hours), and suggested class size (15-25 students), the module contains the following seven sections: (1) a list of behavioral objectives, (2) the instructional design of the module, (3) a pretest on the module goal, (4) a list of materials for the course, (5) instructional procedures for each behavioral objective, (6) a posttest on the module goal, and (7) student feedback on the module. In addition to listing instructional procedures for each objective, the module informs the student of the estimated class time for completion, equipment needed, and how to demonstrate competency. Appended material includes an article on psychopharmacology and a sample paper and pencil test relating to body systems. (LRA)

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CAREER EDUCATION FOR MENTAL HEALTH WORKERS

HEALTH ASSESSMENT

Edited by

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HUMAN SERVICE INSTRUCTIONAL SERIES

MODULE NO. **6**

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CAREER EDUCATION FOR MENTAL HEALTH WORKERS PROJECT
HUMAN RESOURCES INSTITUTE
COLLEGE OF SOCIAL AND BEHAVIORAL SCIENCES
UNIVERSITY OF SOUTH FLORIDA
TAMPA, FLORIDA 33620

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
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We refer you to our Occasional Paper, "Developing a Curriculum for Human Service Workers," Report No. 6, June 1978, for a detailed description of the needs assessment, the rationale for our curriculum design, a general discussion of our core course modules, sequence of courses, and the implications of implementing a Human Service Program.

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- No. 3 Psychosocial Assessment
- No. 4 Techniques of Intervention
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HEALTH ASSESSMENT

Module Goal: This module will teach the student to utilize knowledge of physical factors which may influence health and behavior in order to recognize signs and symptoms which indicate the need for nursing or medical consultation.

Target Population: Human Service students at the community college level.

Module Length: 51 classroom hours

Suggested Class Size: 15 - 25 students

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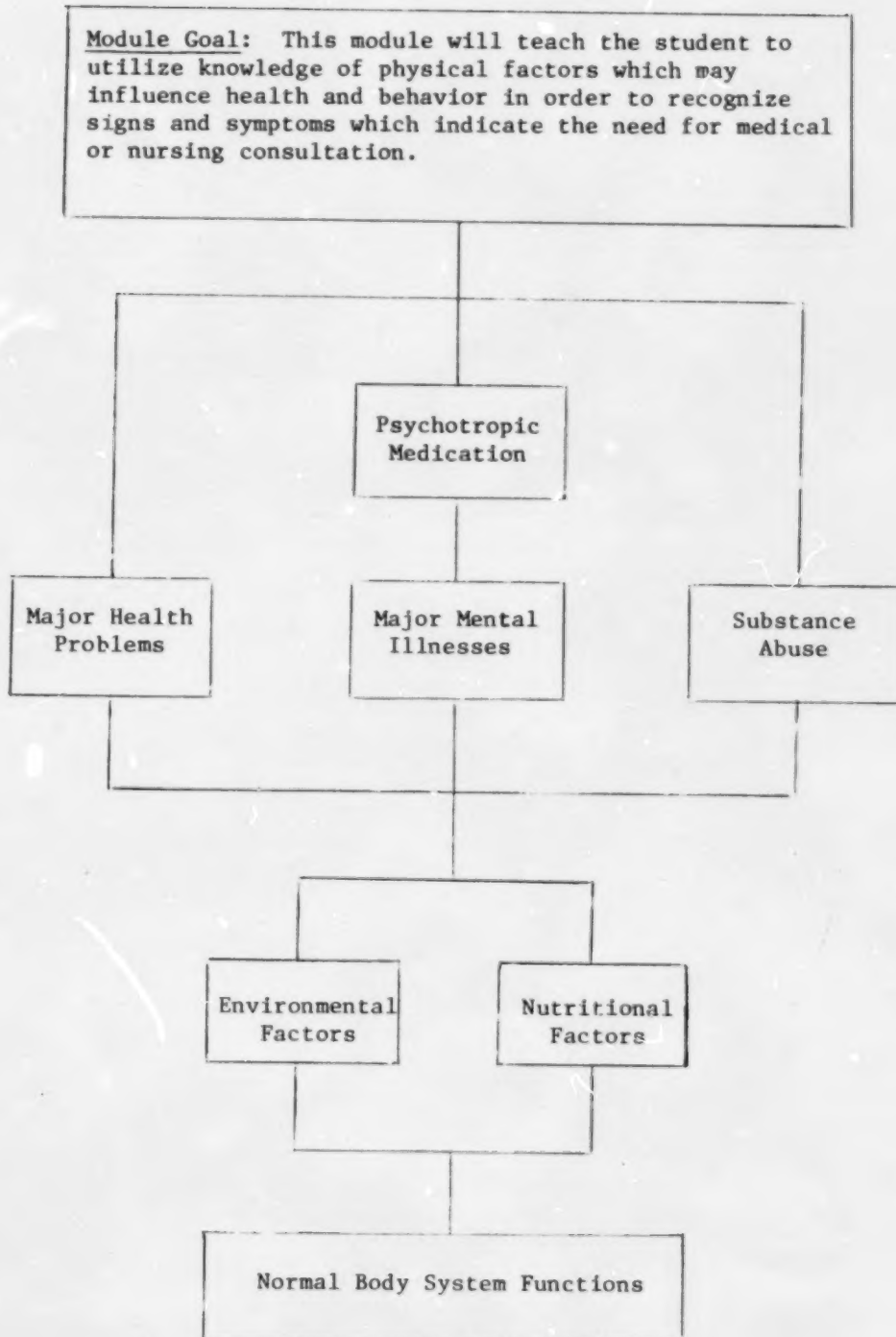
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SECTION I: BEHAVIORAL OBJECTIVES

Upon completion of this module the student will be able to:

1. describe normal functioning of each major body system: Skeletal, Muscular, Circulatory, Respiratory, Digestive, Excretory, Endocrine, Nervous, and Reproductive.
2. describe how air and water pollution, food additives, and overcrowding can influence health and describe measures taken at various levels of government to control these factors.
3. describe the nutrients which make up a well balanced diet and the effect of an excess or deficiency of any of these substances including remedial techniques.
4. describe diseases constituting major health problems; name resources and methods available for detection, prevention and treatment.
5. name the major types of mental illness and describe their relationship to stress, emotion, adjustment, physical disability and defense mechanisms.
6. name and describe substances commonly abused leading to psychological habituation and/or physical addiction, including the symptoms of abuse and resources available for treatment.
7. name and describe the major categories of psychotropic medications, indications for use, and their effect.

SECTION II: INSTRUCTIONAL DESIGN



SECTION III: PRE-TEST

Check YES or NO as to whether or not you can answer each of the following questions.

YES NO

- ☐ ☐ 1. Can you describe the function of each major body system?
- ☐ ☐ 2. Can you name four environmental factors and explain how they influence health?
- ☐ ☐ 3. Can you name all the components of a well balanced diet?
- ☐ ☐ 4. Can you describe the diseases constituting major health problems including how they are spread and major means of prevention?
- ☐ ☐ 5. Can you describe the major types of mental illness?
- ☐ ☐ 6. Can you name three substances commonly abused and the effect of each?
- ☐ ☐ 7. Can you name and describe the basic categories of psychotropic medications?

If you cannot answer YES to all of these questions, this module should be helpful to you.

SECTION IV: LIST OF MATERIALS FOR COURSE

One copy of the Health Assessment module for each student.

Texts

Bartley, S. Howard. Life and Health, 2nd ed. Random House, 1976.

Sleet, David and Estrada, Jackie. Instructor's Manual (one) with test item file for Life and Health, 2nd ed. Random House, 1976.

Diagnostic and Statistical Manual of Mental Disorders. (one) American Psychiatric Association, Washington, D.C., 1968.

Recommended Films

<u>Population and Pollution</u>	17 minutes
<u>Tragedy of the Commons</u> (environment)	23 minutes
<u>About Nutrition</u>	14 minutes
<u>Facts About Figures</u> (nutrition)	13 minutes
<u>The Spoilers</u> (disease)	16 minutes
<u>They Just Go Around</u> (disease)	15 minutes
<u>Progress Against Cancer</u> J-876 Association Films, Inc. 5797 New Peach Tree Road Atlanta, Georgia 30340	28 minutes
<u>Like Other People</u> (mental health)	37 minutes
<u>The Other Guy</u> (alcohol)	28 minutes
<u>Drugs and the Nervous System</u>	29 minutes

Audiovisual Equipment

16mm projector and screen
Anatomical charts

Note: The above films, except on cancer, are available from:

Florida Department of Health and Rehabilitative Services
Resource Center - Audiovisual Section
P.O. Box 210, Jacksonville, Florida 32201

SECTION V: PROCEDURES

OBJECTIVE 1: The student will describe normal functioning of each major body system: Skeletal, Muscular, Circulatory, Respiratory, Digestive, Excretory, Endocrine, Nervous, and Reproductive.

Estimated class time for completion: 9 hours

Equipment: anatomical charts

Instructional Procedure

Readings

- a. Bartley, Chapter 1: The Body in Action
- b. Bartley, Chapter 9: Reproduction and Birth Control, pp. 158-161, 182-184
- c. Bartley, Chapter 8: Human Sexuality, pp. 152-155

Teaching Modality

Lectures covering each major body system, using anatomical charts.

Student Assignment

Observe a well person's and a sick person's physical condition.

Contrast your findings in writing focusing on the major body systems.

Demonstration of Competency

Paper and pencil test: Body Systems (see Addendum B)

OBJECTIVE 2: The student will describe how air and water pollution, food additives, and overcrowding can influence health and identify measures taken at various levels of government to control these factors.

Estimated class time for completion: 6 hours

Equipment: 16mm projector and screen

Instructional Procedure

Reading

Bartley, Chapter 20: Health in the Environment

Teaching Modalities

- a. Film: Population and Pollution
- b. Film: Tragedy of the Commons
- c. Lecture/discussion: Environmental Factors

Student Assignment

Research one of the following areas in the community and report your findings to the class: garbage disposal, sewage treatment, water analysis, health inspections, air pollution, food additives, noise pollution, radio-active fallout and emergency plans or any other appropriate topic.

Demonstration of Competency

Paper and pencil test: Environmental Factors

OBJECTIVE 3: The student will describe the nutrients which make up a well balanced diet and the effect and remediation of an excess or deficiency of any of these substances.

Estimated class time for completion: 6 hours

Equipment: 16mm projector and screen

Instructional Procedure

Reading

Bartley, Chapter 13: Nutrition and Weight Control

Teaching Modalities

- a. Film: About Nutrition
- b. Film: Facts About Figures
- c. Lecture/discussion of films and text.
- d. Role played demonstration of nutrition counseling: educated approach versus fad diet approach.

Student Assignments

- a. Record your own food intake for 48 consecutive hours.
- b. Make a nutritional analysis of your intake.
- c. Note areas where change is needed and write your recommendations for improvement.

Demonstration of Competency

Paper and pencil test: Nutrition and Weight

OBJECTIVE 4: The student will describe diseases constituting major health problems; name resources and methods available for detection, prevention, and cure.

Estimated class time for completion: 9 hours

Equipment: 16mm projector and screen

Instructional Procedure

Readings

- a. Bartley, Chapter 16: The Conquest of Disease
- b. Bartley, Chapter 17: Infectious Diseases
- c. Bartley, Chapter 22: Health Providers, pp. 412-415
- d. Bartley, Chapter 23: Health-Care Delivery, pp. 446-449

Teaching Modalities

- a. Film: The Spoilers
- b. Film: They Just Go Around
- c. Lecture/discussion: Disease and Prevention
- d. Film: Progress Against Cancer
- e. Lecture/discussion: Using Available Resources

Student Assignments

- a. Obtain a physical history from a classmate or friend.
- b. Research and evaluate community resources for disease control and prevention.

Demonstration of Competency

Paper and pencil test: Disease and Prevention

OBJECTIVE 5: The student will name the major types of mental illness and describe their relationship to stress, emotion, adjustment, physical disability and the defense mechanisms.

Estimated class time for completion: 9 hours

Equipment: 16mm projector and screen

Instructional Procedure

Readings

- a. Bartley, Chapter 2: Emotional Development
- b. Bartley, Chapter 3: Mental Health and Mental Illness

Teaching Modalities

- a. Film: Like Other People
- b. Discussion of film and readings.
- c. Lecture/discussion: Emotional adjustment and classification of mental illness. (Refer to Diagnostic and Statistical Manual of Mental Disorders.)

Student Assignment

Write a paper contrasting a well adjusted person versus a maladjusted person and explain.

Demonstration of Competency

Paper and pencil test: Mental Health

OBJECTIVE 6: The student will name and describe substances commonly abused leading to psychological habituation and/or physical addiction, including the symptoms of abuse and resources available for treatment.

Estimated class time for completion: 6 hours

Instructional Procedure

Readings

- a. Bartley, Chapter 4: The Role of Drugs
- b. Bartley, Chapter 5: Common Psychoactive Drugs
- c. Bartley, Chapter 6: Alcohol Use and Abuse
- d. Bartley, Chapter 7: Smoking and Health
- e. (optional) Literature gathered from community resources

Teaching Modalities

- a. Film: Drugs and the Nervous System
- b. Lecture/discussion: Drugs
- c. Film: The Other Guy
- d. Lecture/discussion: Alcohol
- e. Lecture/discussion: Smoking

Student Assignments

- a. Write a substance abuse history on another person. (Do not use his/her real name.)
- b. Research and evaluate community resources available for treatment and counseling in one area of substance abuse. (Can be done in groups - each group covering one area, e.g. drug abuse.)

Demonstration of Competency

Paper and pencil test: Substance Abuse

OBJECTIVE 7: The student will name and describe the major categories of psychotropic medications, indications for use, and their effect.

Estimated class time for completion: 6 hours

Instructional Procedure

Reading

"Psychopharmacy" (See Addendum A)

Teaching Modality

Lecture/discussion: Medications

Student Assignment

Write a two page report for each of the following which describes in detail the symptoms of a person for whom a doctor might prescribe one of the major types of psychotropic medication. Then describe the desired effects and possible side effects of this type of medication which might be observed and recorded.

- a. Anxiety
- b. Depression
- c. Agitation

Demonstration of Competency

Paper and pencil test: Medications

SECTION VI: POST-TEST

1. Describe normal functioning of each major body system.
2. Name four environmental factors and explain how they influence health.
3. Describe a well balanced diet, including all components.
4. Describe the diseases constituting major health problems including how they are spread and major means of prevention.
5. Describe the major types of mental illness.
6. Name three substances commonly abused and the effect of each.
7. Name and describe the basic categories of psychotropic medications.

SECTION VII: FEEDBACK

In order to improve this Health Assessment module your ongoing feedback is essential. As you work through this module, please record specific information on what was helpful to you and what was not. Also include any suggestions or ideas that occur to you. (This feedback will in no way affect your grade.)

Please evaluate each of the following:

1. The textbook:
2. The films:
3. Lecture/discussions:
4. In-class activities:
5. Student assignments:
6. The tests:
7. Evaluation/grading system:
8. The time required by this course:
9. How relevant the course materials were to you as a Human Service Worker:
10. Additional comments:

SECTION VIII: ADDENDUM A

PSYCHOPHARMACOLOGY

Morton Cohen, Director of Pharmacy
Florida Mental Health Institute, Tampa, Florida

Although modern psychopharmacology is less than twenty years old, today's psychotropic drugs make it possible for the psychiatrist to relieve, and often prevent, the distress of many psychoneurotic disorders. The day may not be far off when researchers determine precisely accurate prognostic patterns so that prescribing specific medications for such disorders will be possible. Information on developments of psychopharmacology should be a cornerstone in the professional preparation of mental health workers. Using careful diagnostic study, the mental health worker should be concerned with each patient's total therapeutic needs and, when necessary, seek appropriate consultation. Because of this belief, I hope that the following information about psychotropic drugs will be helpful to the mental health practitioner.

Psychiatric drugs can be divided into the following classes:

1. Antidepressants
2. Antipsychotic Agents
3. Antianxiety Agents and Sedatives
4. Lithium
5. Stimulants

Development of these groups will be made to include usage or indication, dosage, contraindications and side effects.

I. Antidepressants

The Clinical Picture:

Palonius: "He...a short tale to make,
Fell into a sadness, then into a fast,
Thence to a watch, thence into a weakness,
Thence to a lightness, and by this declination,
Into the madness wherein he now raves
and all we mourn for."

Shakespeare, Hamlet, Act 2, Scene 2

One of the most important characteristics of depression is a history of change in mental state. Sometimes referred to as "psychic energizers" or "thymoleptics," potential candidates for antidepressant drug treatment include patients with recurrent agitated or retarded depressions, as well as a group of phobic individuals who experience unexplained panic attacks. The statement that this class of drugs favors the endogenous form of depression far more than the situational type of depression has its pros and cons. I am a believer that this statement is true. In the situational type of depression, we may also have anxiety as well, so other medication

might also be needed. In treating many depressed patients, one should think first of the possibility of an active antidepressant drug treatment program as one of the essential features of total treatment.

The two major categories of antidepressant drugs are:

A. The Tricyclic Group

<u>Generic</u>	<u>Trade</u>	Effective adult daily dose in mg		
		<u>Low</u>	<u>Med</u>	<u>High</u>
amitriptyline	Elavil	50-150	150-225	225-300
desipramine	Norpramin	100-150	150-200	200-250
	Pertofrane			
doxepin	Sinequan	50-150	150-225	225-300
imipramine	Tofranil	50-150	150-225	225-300
nortriptyline	Aventyl	50-75	75-100	100-150
protriptyline	Vivactil	15-30	30-45	45-60

Side Effects

1. Atropine like effects

Dry mouth
Dilated pupils
Blurred vision
Bowel and bladder retention

2. Neurological signs

Respiratory depression
Severe sweating
Hyperpyrexia (high fever)

3. Cardiovascular signs

Cyanosis - rapid, weak pulse
Sinus tachycardia
Hyper- or Hypotension
Shock

Do not give in combination with epinephrine, atropine, anti-Parkinson drugs, or MAO inhibitors. These all enhance the potential of tricyclic antidepressants and increase the incidence of toxicity. Tricyclic antidepressants act by blocking the uptake of norepinephrine (NE) hence making more NE available at the receptor.

B. MAO Inhibitors (Less effective - more dangerous)

<u>Generic</u>	<u>Trade</u>	Effective adult daily dose in mg		
		<u>Low</u>	<u>Med</u>	<u>High</u>
isocarboxazide	Marplan	10-20	20-40	40-60
pargyline	Eutonyl	25-50	50-75	75-100
phenelzine	Nardil	15-30	30-45	45-75
tranylcypromine	Parnate	10-20	20-30	30-40

Side Effects

1. Severe, atypical headaches, from back to front of head
2. Heart palpitations
3. Neck stiffness
4. Sweating
5. Cold, clammy skin
6. Dilated pupils
7. Chest pain
8. Rapid heart rate
9. Slow heart rate

Since monamine oxidase (MAO) serves as a safety valve against excess norepinephrine in cells, the use of a MAO inhibitor does away with this safety factor. Tyramine in such foods as cheese, Chianti wine, pickled herring, chicken livers, broad beans, yeast extracts (all of which are high in tyramine) acts as an indirect-acting sympathomimetic amine which releases NE and raises blood pressure. Therefore, if a person taking MAO inhibitors eats any of the above listed foods, he may develop marked elevation in blood pressure, which can result in intracranial hemorrhage leading to death. Emergency lowering of blood pressure with alpha-blocking agents, such as chlorpromazine or phentolamine, via IV infusion, is vital, with the rate regulated so as to lower blood pressure gradually to safe levels. Barbiturates, narcotics, analgesics, alcohol, thiazide diuretics, and phenothiazine compounds should not be used in combination with MAO inhibitors, as they too can cause serious hypertension.

An important point affecting case management is that antidepressant drugs (especially tricyclics) require at least two weeks before therapeutic effects emerge and by the same token, the effects will still be seen for about 7-14 days after cessation of the medication. Adequate dosage must be given for antidepressants to be effective. (For example, Elavil should be started with 75mg/day and raised to 150-300mg/day.) Since these are long acting drugs, they should be given for a period of 3-4 weeks before determining if they failed to produce desired results.

II. Antipsychotic Drugs

Antipsychotic drugs are newer terms for major tranquilizers. The antipsychotic drug improves the mood and behavior of psychiatric patients without excessive sedation. This group includes the phenothiazines, thioxanthenes, and the butyrophenones.

The field of tranquilizing agents was opened up by the almost simultaneous introduction of two powerful drugs, chlorpromazine and reserpine. Chlorpromazine originated in France as a result of studies of those antihistamines having a phenothiazine structure, such as promethazine. Preparations of "Rauwolfia serpentina" have been used in India for centuries for the treatment of various illnesses. Reserpine, one of its alkaloids, was isolated in 1952. As a group, the reserpines, because they are less effective and more toxic, are no longer used in psychiatric treatment.

It was soon found that even at subhypnotic levels these drugs exert striking calming effects on the behavior of wild animals and disturbed patients. The knowledge that these drugs could influence spontaneous and learned behavior in animals led to the development of extensive screening procedures for new types of tranquilizing drugs. This produced a variety of phenothiazine derivatives. Once the unusually beneficial effects of the drugs in psychotic patients was recognized, a large number of related compounds were introduced. The major indication for these compounds is in treating the various forms of schizophrenia and in treatment of agitated depressive states and emotionally unstable personalities.

Therefore, let us consider the three major classes of antipsychotic drugs:

- A. Phenothiazine derivatives
- B. Thioxanthene derivatives
- C. Butyrophenone derivatives

A. Phenothiazine derivatives

The first widely used phenothiazine tranquilizer, chlorpromazine, was synthesized in France in 1950. The drug was used by Laborit in France for its part of the so-called "lytic cocktail," which consisted of promethazine, meperidine, and chlorpromazine. The purpose of this unusual mixture was to cause profound inhibition of the autonomic nervous system.

The potent tranquilizing and antiemetic action of chlorpromazine led to widespread use of the drug in various fields of medicine. Subsequently, many other phenothiazine tranquilizers were synthesized. At present, there are at least twelve of these in clinical use.

<u>Generic</u>	<u>Trade</u>	<u>Effective adult daily dose in mg</u>		
		<u>Low</u>	<u>Med</u>	<u>High</u>
<u>Soporific (sedating) phenothiazine</u>				
chlorpromazine	Thorazine	50-400	400-800	800-2000
promazine	Sprarine	40-200	200-600	600-1200
thioridazine	Mellaril	75-400	400-600	600-1000
triflupromazine	Vespril	50-100	100-150	150-200
<u>Non-soporific (non-sedating) phenothiazine</u>				
fluphenazine	Permitil	1-25	5-10	10-20
	Prolixin			
perphenazine	Trilafan	8-24	24-40	40-64
prochlorperazine	Compazine	15-60	60-90	90-150
trifluoperazine	Stelazine	2-10	10-20	20-40

The phenothiazines comprise three groups (by chemistry and pharmacology):

1. Aliphatic Group (most sedating)

- a. Thorazine
- b. Sprarine
- c. Vespril

2. Piperidyl Group (less likely to produce Parkinsonism as side effect and less sedating)

- a. Mellaril
- b. Serentil

3. Piperazine Group (least sedating)

- a. Compazine
- b. Stelazine
- c. Trilafan
- d. Permatil
- e. Prolixin

The aliphatic group have greater sedative action and are most useful with agitated schizophrenics. The piperazines are more useful in depressed or withdrawn schizophrenia. The piperidyl group resembles the aliphatics in most respects, except that they are less likely to produce Parkinsonism as a side effect.

When a person takes 35 to 50 mg of Thorazine, he becomes drowsy and calm in about one hour and remains in this state for about 5 hours. If he takes an even larger dose, he may become quite sleepy and ataxic. His face acquires an expression characteristic of Parkinson's disease. Even when he becomes sleepy, he responds easily to painful stimuli. He definitely does not resemble someone who has swallowed a large dose of "sleeping pills". Thorazine exerts important effects on the central nervous system. It potentiates hypnotics and, in animal study, inhibits conditioned reflexes decreasing hostility and spontaneous motor activity. It is well absorbed from the GI tract. The peak effect occurs in about an hour, and the duration of action is about 4-5 hours following oral administration. In psychiatric practice, markedly larger doses of Thorazine have been used, even several grams a day. Failure to treat patients at adequate dosage levels is a common therapeutic error. Of course, there must be a build up, beginning with 200 mg daily and increasing it by 100 mg increments. The therapeutic response should be expected within 4-6 weeks.

B. Thioxanthene derivatives

<u>Generic</u>	<u>Trade</u>	<u>Effective adult daily dose in mg</u>		
		<u>Low</u>	<u>Med</u>	<u>High</u>
thiothixene	Navane	6-24	24-48	48-60
chlorprothixene	Taractan	75-400	400-800	800-2000

These drugs are very similar to phenothiazine derivatives. Taractan is effective in psychotic conditions in which agitation and anxiety are prominent symptoms. Navane is useful in the treatment of chronic schizophrenics who are apathetic.

C. Butyrophenone derivatives

<u>Generic</u>	<u>Trade</u>	Effective adult daily dose in mg		
		<u>Low</u>	<u>Med</u>	<u>High</u>
haloperidol	Haldol	2-6	6-10	10-15

Haldol improves psychotic behavior, but extra pyramidal reactions to the drug are frequent. It is a potent antiemetic. It blocks apomorphine-induced vomiting, acting probably on the chemoreceptor trigger zone.

Side Effects of All Groups

1. Dry mouth
2. Blurred vision
3. Dizziness
4. Skin photosensitivity (avoid sun or use sun screen agents)
5. Parkinsonism (zombie look)
6. Dystonic reaction (stiffness)

Intravenous benztropine (0.5 to 2.0 mg) or diphenhydramine (25 to 50 mg) can provide dramatic reversal of such reaction.

7. Tardive Dyskinesia (disturbed involuntary movements, e.g., "fly catching" movement of tongue and throat, smacking or sucking of lips, or uncontrolled movements of the hands or feet) Tardive dyskinesia remains untreatable and does not usually remit spontaneously. This defect sometimes improves on withholding drug treatment.

Potentially dangerous combinations include alcohol, barbiturates, minor tranquilizers and narcotics.

III. Antianxiety Agents and Sedatives

The synonym for antianxiety agents is "minor tranquilizers" or, in some instances, sedative drugs. "Minor tranquilizers" has been applied to those agents which tranquilize but have no effect on psychotic symptomatology.

The chief indications for anxiolytics are nervousness and neuroses (particularly, states of anxiety). The ideal antianxiety agent is a drug which would specifically reduce or eliminate a patient's symptoms without causing drowsiness or psychomotor function impairment.

A. Antianxiety Agents

1. Benzodiazepines

<u>Generic</u>	<u>Trade</u>	<u>Effective adult daily dose in mg</u>		
		<u>Low</u>	<u>Med</u>	<u>High</u>
chlordiazepoxide	Librium	15-75	75-150	150-300
diazepam	Valium	4-15	15-25	25-40
oxazepam	Serax	15-45	45-75	75-120
chlorazapate	Tranxene		15-60	

2. Propanediols

meprobamate	Miltown Equanil	800-1200	1200-1600	1600-2400
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3. Diphenylmethanes

hydroxyzine	Atarax Vistaril	50-100	100-200	200-400
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The barbiturates are CNS (central nervous system) depressants and in high dosage have sedative effects and induce sleep. In low dosage barbiturates act like alcohol and reduce anxiety. These drugs have the serious disadvantage of being addicting, so that increased dosage is usually required to produce similar effects. With habituation, the effective dose can approach very closely the lethal dose.

Side Effects of Antianxiety Agents

1. Ataxia
2. Skin eruptions
3. GI disturbances
4. Altered libido
5. Muscular twitching
6. Habituation/addiction
7. Convulsions upon withdrawal

B. Sedatives and Hypnotics (Non-specific CNS depressants)

1. Barbituric Sedatives

<u>Generic</u>	<u>Trade</u>	<u>Effective adult daily dose in mg</u>
amobarbital	Amytal	15-120
butobarbital	Butisal	15-200
pentobarbital	Nembutal	30-100
secobarbital	Secoral	50-100

2. Non-barbituric Sedatives

chloral hydrate	Noctec Somnos	200-500 32.5-65
paraldehyde	Paral	975

3. Non-barbituric Hypnotics (no CNS effect)

<u>Generic</u>	<u>Trade</u>	<u>Effective adult daily dose in mg</u>
ethchlorvynol	Placidyl	100-750
glutethimide	Doriden	125-250
methaqualone	Quaalude	150-300
	Sopor	75-150
methypylon	Noludor	50-200

Side Effects of Barbiturates (Sedatives)

1. Cyanosis
2. Diminished reflexes
3. Low body temperature
4. Low blood pressure
5. Constriction of pupils
6. Poor circulation
7. Hypostatic pneumonia
8. Respiratory depression - cessation - death

Most of these drugs produce some sedation, but will often dissipate after several days of treatment. Initial doses should be low with a slow 4-5 day build up. The CNS depressant effects are potentiated by alcohol and other effects may include blurred or double vision, slurred speech, lowered blood pressure, and tremor. Addiction with these drugs is possible since they create a physiological-dependence as with meprobamate, which can sometimes be fatal.

IV. Lithium

Although the possibilities of lithium usage was begun in the 1950's, it was not until 1965 that serious attention was given lithium as an antimanic agent. Therapeutic doses of lithium for acute mania are usually in the range of 1500-2000 mg daily. Ordinarily, lithium is started at about 600-900 mg on the first day, reaching 1200-1800 mg on the second day. Adjustments thereafter are made according to the patient's clinical condition and are monitored principally according to blood lithium levels. These should range between 1.0 and 2.0 mEq/liter per day. Serum (blood) levels below 1.0 are rarely effective while levels above 2.0 almost certainly leads to toxic manifestations. To insure adequate dose levels blood tests should be done once or twice a week in the initial stages of lithium treatment.

Because of the toxic risk, patients must be impressed with the necessity for taking exactly the prescribed number of capsules at the time they are prescribed. The side effect of lithium which most concerns the practitioner is death. However, there is a progression of effects -- diarrhea, nausea, anorexia, vomiting, GI disturbances, weakness, dizziness, blurred vision, seizures, coma, -- death. Since normal salt intake is necessary to insure proper cell metabolism, those patients on a salt-free diet should not be given lithium. Thyroid dysfunction concomitant with lithium use often manifests itself by fatigue, dry skin, and sensitivity to cold. This effect can probably be controlled by adjunctive medication.

The patient on lithium should be made to understand that the drug does not cure his recurrent illness, but rather prevents the reappearance of symptoms, and if the patient fails to take his medication, relapse will likely result. Lithium monitored effectively can be taken indefinitely. It does not seem to have significant effect on mental function, and there is no evidence of withdrawal symptoms after discontinuance.

V. Stimulants

For many years, stimulants have been used widely in medicine as anorexias (appetite suppressants), but now the legal use (FDA) is as psychotropic drugs for hyperactive children.

<u>Generic</u>	<u>Trade</u>	<u>Average dosage in mg</u>
A. <u>amphetamine</u>	Benzadrine	5-15
dextroamphetamine	Dexedrine	5-15
methamphetamine	Desoxyn	2.5-15
B. <u>Non-amphetamine</u>		
methylphenidate	Ritalin	5-30
deanol	Deaner	25-50
phenmetrazine	Preludin	25-75

Ritalin and Dexedrine are the two most widely used for the hyperactive (hyperkinetic) child. Hyperactive children are frequently friendly, but unable to exercise the behavioral controls expected by adults. Since there is a developmental lag, the problem can be seen as the failure of the developing cerebral cortex to exert the necessary inhibitory control over the activity of the other brain centers. Stimulant drugs presumably make the cerebral cortex temporarily more efficient so it can exert greater inhibitory control over the activity of the lower brain centers.

Side Effects of Stimulants

1. Heart palpitation
2. Tachycardia
3. Elevated blood pressure
4. Insomnia
5. Tremor
6. Headache
7. Dry mouth
8. Diarrhea
9. Anorexia (loss of appetite)

ADDENDUM B

Sample Paper and Pencil Test
for Objective 1: Body Systems

- 1) Most characteristic of muscles is their ability to:
 - a) shrink
 - b) contract
 - c) store blood
 - d) function
- 2) Tendons attach:
 - a) ligaments to muscle
 - b) skin to bone
 - c) joints to ligaments
 - d) muscle to bone
- 3) Blood is composed of cells and fluid. The fluid is called:
 - a) fibrinogen
 - b) plasma
 - c) hemoglobin
 - d) lymph
- 4) The section of the heart which has the greatest load is:
 - a) aorta
 - b) right atria
 - c) left ventricle
 - d) right ventricle
- 4a) Why:
- 5) Most characteristic and the most functional aspect of the alveoli is:
 - a) exchange of gasses take place here
 - b) the walls are extremely thin and elastic
 - c) they warm incoming air
 - d) they collect carbon

6) Name the one below which is incorrect.

The function of lymph is to:

- a) take up larger globs of substances that the capillary system may not be able to handle
- b) carry white blood cells
- c) produce insulin
- d) help carry fluids back to the heart

7) Peristalsis serves to:

- a) move food through the digestive system
- b) add liquid to food solutions as they enter the digestive system
- c) churn and mix food to aid its mechanical breakdown

8) The villi are found in:

- a) the liver
- b) the stomach
- c) the kidney
- d) the small intestine

9) The tiny tufts of capillaries in the kidney are called:

- a) alveoli
- b) villi
- c) glomeruli
- d) adrenals

10) The structure that conveys urine from the kidney tubules to the bladder is called:

- a) nephson
- b) ureter
- c) glomerulus
- d) urethra

11) The hormone that prepares the body for flight or fight is:

- a) thyroxin
- b) TSH
- c) estrogen
- d) adrendlin

12) The autonomic nervous system primarily serves the:

- a) skeletal muscles
- b) sense organs
- c) brain
- d) none of the above

13) Sperm is produced in the:

- a) vas deferens
- b) epididymes
- c) testes
- d) penis

14) Ova are transported to the uterus at ovulation via:

- a) the fallopian tubes
- b) the cervix
- c) the ovaries
- d) urethra

15) The gland often referred to as "the master gland" is the:

- a) thymus
- b) adrenal
- c) pituitary
- d) thepoid

16) The chief supporting structure of the body is:

- a) the muscular system
- b) the skeletal system
- c) the lymphatic system
- d) the circulatory system

17) Which of the following is not part of the skeletal system:

- a) tendons
- b) joints
- c) cartilage
- d) jaw

True or False

- 18) The biceps and triceps are sphincter muscles _____
- 19) The endocrine glands include the thyroid, pituitary, adrenals and gall bladder _____
- 20) The adrenal glands lie at the base of the brain _____
- 21) Red blood cells are manufactured in the lymph nodes _____
- 22) Ammonia is extremely toxic if it accumulates in the body _____
- 23) An important function of the kidney is to preserve the balance of chemicals in the blood _____
- 24) The right side of the heart sends blood to the lungs for aeration _____
- 25) Not all cells can reproduce _____

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